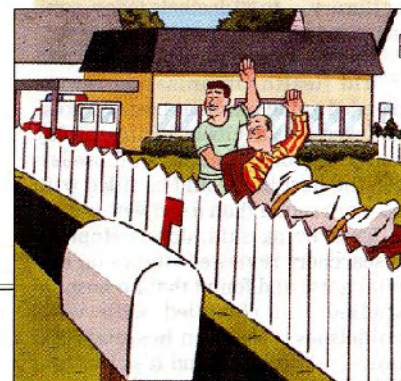


# American Medical News

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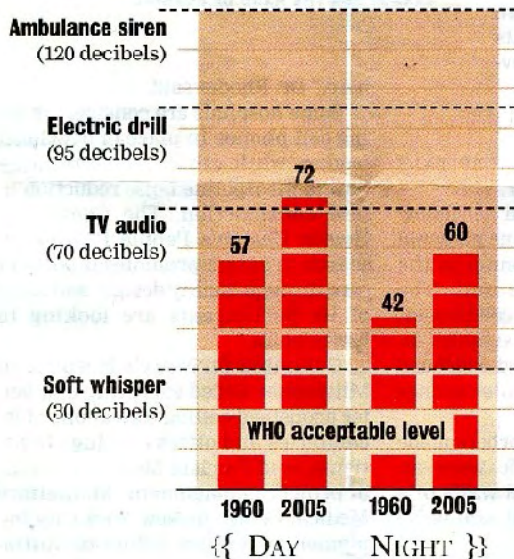


Double WHO's acceptable levels

## Rising hospital risk factor: noise

### GETTING LOUDER

Researchers say the noise levels found at Johns Hopkins are representative of those at hospitals throughout the country. The World Health Organization says it's just too loud.



SOURCES: JOHNS HOPKINS UNIVERSITY, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, LEAGUE FOR THE HARD OF HEARING

**A Johns Hopkins study finds hospital noise levels have been increasing consistently since 1960, upping the stress for physicians and patients alike.**

Damon Adams

AMNEWS STAFF

SURGEON MICHAEL RHODES, MD, REMEMBERS THE white-hat nurse who shushed hospital visitors with the touch of a finger to her lips. Her picture greeted guests to many hospitals from the 1940s through the 1960s.

But the sign has mostly disappeared, and with it, much of the quiet it encouraged.

A new Johns Hopkins University study found that noise levels at hospitals in the United States and around the world have risen steadily during the past five decades. For physicians and nurses, the growing decibels contribute to stress and a greater risk of medical errors. For patients, excessive noise can slow the healing process.

"At one time, the idea of eliminating excess noise was a valued asset. It has kind of lost its value," said Dr. Rhodes, chair of the Dept. of Surgery at Christiana Care Health System, based in Wilmington, Del.

So just how noisy is it?

The average daytime level grew from 57 decibels in 1960 to 72 decibels today, according to the Johns Hopkins study released in November.

For physicians and patients, it's as if they went from being surrounded by the humming of an electric shaver to being bombarded with the racket of a garbage disposal.

At night, hospital noise levels grew from 42 decibels in

Continued on next page

## Hospital-free ED

In the country's fast-growing suburbs, the freestanding emergency department — without a hospital physically attached — is the latest wave in medical facilities.

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### Government & Medicine

Large companies keeping retiree drug benefits — for now

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### Professional Issues

Remembering Vietnam: Two physicians reflect

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### Business

Start early to groom doctors as leaders

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### Opinion

The ethics of quarantine

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### Health & Science

CDC questions *C. diff* tie to antibiotic use

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## Higher coding spurs insurer to "blend" pay rates

**As electronic medical records systems improve physicians' ability to code, Ohio's WellPoint responds by paying CPT levels three and four at the same rate.**

Bob Cook

AMNEWS STAFF

The reimbursement cut comes through the use of something called "blended rates." Starting Nov. 1, Anthem Blue Cross Blue Shield of Ohio began paying CPT level-three and level-four codes for Cincinnati-area doctors at the same rate, rather than having separate reimbursement for each level. The rates for level-three codes were increased, and the rates for level-four codes were dropped.

ing EMR." Extra documentation required to use a higher code, such as family history, medical history and social history, is "just a little easier" with an EMR, Dr. Malinowski said.

Under blended rates, Anthem says 75% of physicians should see no change, or a small increase, in reim-

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ON THE ONE HAND, WELLPOINT Inc.'s Anthem Blue Cross Blue Shield

Classified advertising  
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# Rising hospital risk factor: noise

Continued from preceding page

1960 — the same level of a quiet office or library — to 60 decibels today, similar to the noise of a sewing machine.

The rates are far above the 1995 World Health Organization recommended guidelines that hospital noise not exceed 35 decibels during the day and 30 decibels at night. At those levels, the hospital would be filled with no more sound than a soft whisper.

That being said, Johns Hopkins researchers reviewed studies on hospital noise and found that no hospital studied had complied with WHO guidelines. "Noise in hospitals is a universal problem, and it's clear that it is getting worse every year," said acoustics expert Ilene Busch-Vishniac, PhD, co-author of the study and a professor of mechanical engineering at Johns Hopkins in Baltimore.

## Dealing with noise

GENERAL SURGEON RAMON BERGUER, MD, said hospital noise is a pet peeve. He has had to stop phone conversations because of blaring overhead paging systems, where messages are repeated as many as three times. IV pump alarms make a lot of beeping noise, and loud conversations require a physician to repeat orders.

"You're trying to focus on a problem. You may be trying to listen to a

**Too much noise means slower healing, hearing loss for surgeons and more medication for surgical patients.**

patient," said Dr. Berguer, chief of surgery at Contra Costa Regional Medical Center in Martinez, Calif. "You're already juggling five or six things at once."

Physicians say the operating room is particularly loud, thanks to equipment and tools such as saws and drills. "It's not uncommon that I can't even dictate notes because there is so much noise in the operating room," Dr. Berguer said.

Alarms are a major source of irritation to patients and visitors, and the majority of audible alarms result in no action being taken, said the two-year Johns Hopkins study. Powerful ventilation systems fuel noise, too.

"There is also just this enormous crowd of people who are constantly on the move and who are talking to each

other," Dr. Busch-Vishniac said. "When you put that all together, it makes for pandemonium."

On top of that, hospitals lack materials normally associated with acoustical absorption, largely due to concerns about infection control, wear and cost.

All of that noise contributes to problems for physicians and patients alike. The Johns Hopkins study looked at previous research and found that:

- More than half of orthopedic surgeons had significant noise-induced hearing loss, likely from exposure to bone drills and saws.

- Healing is slowed when patients are exposed to noise, with research showing that hospital stays for cataract surgery patients increased during times of higher noise due to construction of a new building.

- Another study found that more medications were needed for surgical patients in recovery when sound levels exceeded 60 decibels.

## Reducing noise

SOME PHYSICIANS AND HOSPITALS are trying to cut the clatter.

Dr. Busch-Vishniac and her fellow researchers gave hands-free personal communicators to personnel in the pediatric intensive care unit. The communicators work like cell phones, and each staff member is signaled directly. The change reduced overhead pages from every five minutes to once or twice an hour.

In addition, sound absorbers made with antibacterial fabric were attached to the ceiling and walls of a cancer unit. Hospital staff said noise was reduced.

The American College of Surgeons has a committee studying operating room distractions, including noise. Dr. Rhodes said music in the operating room can reduce stress, but loud equipment such as drills and alarms can be distracting.

Chatter is one controllable noise distraction, he said. Light conversation is a welcome relief at times in the operating room, but surgical teams should know when it's proper to talk and when not to talk. The college's committee is developing protocols on appropriate dialogue and use of various devices.

"Physicians need to lead by example with appropriate dialogue. The word professionalism is important

## QUIET PLEASE

When researchers measured sound at Johns Hopkins Hospital in Baltimore, they found noise levels higher than suggested by the World Health Organization. Here are average decibel levels in units at Johns Hopkins, considered similar to hospitals around the world, compared with everyday noises:

	DECIBEL LEVEL
Crying baby	115
Dishwasher	55-70
Normal conversation	60
Pediatric ICU	60
Oncology unit	57
Children's medical services	54
Medical/surgical unit	54
Refrigerator	50
Quiet residential area	40

SOURCES: JOHNS HOPKINS UNIVERSITY, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, SIGHT & HEARING ASSN., LEAGUE FOR THE HARD OF HEARING

here," Dr. Rhodes said.

Some hospitals are considering using cell phones in place of overhead paging, while others are examining how to incorporate noise reduction in new construction. The Center for Health Design's Pebble Project research program promotes quality of care through facility design, and some of its participants are looking to lessen noise.

Columbia St. Mary's Hospital in Milwaukee added carpeting and better acoustical ceiling tiles at one of its campuses and offers earplugs to patients, said Patricia Morrill, director of project management. Montefiore Medical Center in New York City implemented a noise-reduction initiative that included replacing pill crushers with pill grinders.

Some physicians expect fewer noise problems as hospitals make changes. "Hospitals have not been designed to suppress noise," said Douglas Cutler, MD, of Phoenix, regional medical director for IPC/The Hospitalist Company. "People have to accept that there is a problem and a need to change."

Until that happens, doctors said they will do their best to deal with unwanted noise.

"You do get used to it," said neurosurgeon Theodore Forcht Dagli, MD, a member of the American College of Surgeons' committee on perioperative care. "You learn to shut things out." ♦